SANTA CRUZ BIOTECHNOLOGY, INC.

TDRD3 siRNA (h): sc-76639

BACKGROUND

TDRD3 (tudor domain containing 3) is a 651 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one UBA domain and one tudor domain. Expressed in lung, brain, heart, liver, placenta, kidney, pancreas and skeletal muscle, TDRD3 exists as a component of mRNA stress granules and is thought to play a role in the translation of target mRNAs, as well as in the assembly and disassembly of stress granules. Multiple isoforms of TDRD3 exist due to alternative splicing events. The gene encoding TDRD3 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Côté, J. and Richard, S. 2005. Tudor domains bind symmetrical dimethylated arginines. J. Biol. Chem. 280: 28476-28483.
2. Anderson, P. and Kedersha, N. 2006. RNA granules. J. Cell Biol. 172: 803-808.
3. Kedersha, N. and Anderson, P. 2007. Mammalian stress granules and processing bodies. Meth. Enzymol. 431: 61-81.
4. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. Hum. Mol. Genet. 16: 2004-2010.
5. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
6. Goulet, I., et al. 2008. TDRD3, a novel Tudor domain-containing protein, localizes to cytoplasmic stress granules. Hum. Mol. Genet. 17: 3055-3074.

CHROMOSOMAL LOCATION

Genetic locus: TDRD3 (human) mapping to 13q21.2.

PRODUCT

TDRD3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TDRD3 shRNA Plasmid (h): sc-76639-SH and TDRD3 shRNA (h) Lentiviral Particles: sc-76639-V as alternate gene silencing products.

For independent verification of TDRD3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76639A, sc-76639B and sc-76639C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TDRD3 siRNA (h) is recommended for the inhibition of TDRD3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TDRD3 gene expression knockdown using RT-PCR Primer: TDRD3 (h)-PR: sc-76639-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.